PATENT CLAIMS

1. A method for preparing a mat comprising glass fiber, comprising:

- a) the deposition or projection of threads comprising glass fibers onto a traveling belt in order to form a lap of said threads which is driven by said belt, then
- b) needling by bearded needles passing through said lap and being displaced in the direction of the lap at substantially the same speed as that when they pass through the latter, with a stroke density ranging from 1 to 25 strokes per cm^2.

2. The method as claimed in the preceding claim, characterized in that the stroke density of the needling is at most 15 strokes per cm^2.

3. The method as claimed in the preceding claim, characterized in that the stroke density of the needling is at most 10 strokes per cm^2.

4. The method as claimed in one of the preceding claims, characterized in that the stroke density of the needling is at least 2 strokes per cm^2.

5. The method as claimed in one of the preceding claims, characterized in that the threads are continuous threads comprising glass fibers.

6. The method as claimed in one of claims 1 to 4, characterized in that the threads are cut threads comprising glass fibers.

7. The method as claimed in one of the preceding claims, characterized in that the needling is carried out by needles fastened to a support, the beards of the needles being directed toward said support.

8. The method as claimed in one of the preceding claims, characterized in that the lap and the mat which is derived from it advance at the speed of 2 to 35 meters per minute.

9. The method as claimed in one of the preceding claims, characterized in that the lap and the mat which is derived from it advance at the speed of at least 8 meters per minute.

10. The method as claimed in one of the preceding claims, characterized in that the lap and the mat which is derived from it advance at the speed of at most 20 meters per minute.

11. The method as claimed in one of the preceding claims, characterized in that the needles describe an elliptic movement.

12. The method as claimed in one of the preceding claims, characterized in that the mat does not contain any binder.

13. A needled mat of continuous threads consisting of glass fiber, if appropriate sized, and without any needle holes visible to the naked eye, said mat being bound by means of loops of said threads.

14. The mat as claimed in the preceding claim is in the form of a roll.

15. A method for preparing a thermosetting matrix composite material comprising the impregnation of the mat of claim 13 with a thermosetting resin.

16. The method as claimed in the preceding claim, characterized in that it is with closed-mold injection (RTM).

17. A method for preparing a preimpregnated sheet (SMC) comprising the continuous insertion of the mat of claim 13 between two layers of thermosetting resin paste.

18. A preimpregnated sheet comprising the mat of claim 13 and a thermosetting resin.

19. A method for the manufacture of a composite material by the molding of the sheet of the preceding claim by pressure on its main faces, thus resulting in a widening of the sheet before the solidification of the resin.

20. A composite material obtained by means of the method of one of claims 15, 16 or 19.

21. A composite material with a thermosetting matrix and with a reinforcement comprising continuous glass filaments.